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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/602,819

06/25/2003

Thomas W. Steiner

2988

7590

10/20/2004

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EXAMINER

FEGGINS, KRISTAL J

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,819

Applicant(s)

STEINER, THOMAS W.

Examiner

K. Feggins

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2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,6 and 11-14 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/25/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Lundquist et al. (US 3,972,051).

Lundquist et al. disclose the following claimed limitations:

* regarding claim 1, a method for depositing fluid droplets on a surface (Abstract, fig 1);

* establishing a substantially collinear flow of air the substantially collinear flow of air having a maximum velocity (col 4, lines 34-49, fig 2);

* emitting at least one fluid droplet into a region of the collinear flow of air, said region having a regional airflow velocity lower than the maximum airflow velocity of air within the collinear flow of air (col 4, lines 34-68, col 5, lines 1-2, fig 2);

* regarding claim 2, ensuring the velocity at which the at least one ink jet fluid droplet is emitted into the region of the collinear flow of air and the regional airflow velocity of the region of the collinear flow of air are substantially matched (col 4, lines 34-58, fig 2);

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-4, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundquist et al. (US 3,972,051) in view of Lammers et al. (US 4,292,640).

Lundquist et al. disclose the following claimed limitations:

* regarding claim 3, a method for depositing fluid droplets on a surface establishing a substantially collinear flow of air

* the region having a regional airflow velocity lower than the maximum air flow velocity of air within the collinear flow of air.

* regarding claim 4, ensuring that the velocity at which the at least one inkjet fluid droplet is emitted into the region of the collinear flow of air and the regional airflow velocity of the region of the collinear flow of air are substantially matched.

* regarding claim 9, an apparatus for depositing fluid droplets on a surface (Abstract, fig 2)

* a collinear airflow for establishing a collinear airflow, the collinear airflow duct/expansion chamber, 25 and holes, 29/ adapted to provide an airflow velocity profile within the collinear airflow, the airflow velocity profile having a maximum airflow velocity

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and a region having a regional airflow velocity, the regional airflow velocity being lower than the maximum airflow velocity (col 4, lines 34-68, col 5, lines 1-8, fig 2);

Lundquist et al. do not disclose the following claimed limitations:

* further regarding claim 3, emitting the fluid droplets from a plurality of nozzles into a region of said collinear flow of air.

* further regarding claim 9, inkjet nozzles disposed to emit fluid droplets into the region of regional airflow velocity at an ink jet fluid droplet .

* regarding claim 10, a systems controller, the systems controller capable of ensuring that the inkjet fluid droplet velocity and the regional airflow velocity are substantially matched.

Lammers et al. disclose the following claimed limitation:

*further regarding claim 3, emitting the fluid droplets from a plurality of nozzles into a region of said collinear flow of air (col 4, line 49-col 5, line 2, fig 2) for the purpose of enabling printing functions.

* further regarding claim 9, inkjet nozzles disposed to emit fluid droplets into the region of regional airflow velocity at an ink jet fluid droplet velocity (col 4, line 49-col 5, line 2, fig 2); for the purpose of printing data and other information on a strip of recording media.

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* regarding claim 10, a systems controller, the systems controller capable of ensuring that the inkjet fluid droplet velocity and the regional airflow velocity are substantially matched (fig 2, col 3, lines 28-47) for the purpose of controlling velocity of ink droplets in a single stream and/or between streams of a multistream print head in a more efficient and effective way.

It would have been obvious at the time of the invention was made to a person having ordinary skill in the art to utilize emitting the fluid droplets from a plurality of nozzles into a region of said collinear flow of air, inkjet nozzles disposed to emit fluid droplets into the region of regional airflow velocity at an ink jet fluid droplet and a systems controller, the systems controller capable of ensuring that the inkjet fluid droplet velocity and the regional airflow velocity are substantially matched, taught by Lammers et al. into Lundquist for the purposes of enabling printing functions, printing data and other information on a strip of recording media, and controlling velocity of ink droplets in a single stream and/or between streams of a multistream print head in a more efficient and effective way.

5. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being obvious over Lundquist et al. (US 3,972,051) in view of Delametter et al. (US 6,572,223 B2).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

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the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Lundquist et al. disclose the following claimed limitations:

- * regarding claim 7, a method for depositing fluid droplets on a surface, establishing a substantially collinear flow of air

- * emitting the fluid droplets into a plurality of regions of the collinear flow of air, the plurality of regions having regional airflow velocity lower than the maximum airflow velocity of air within the collinear flow of air, every member of the plurality of regions of the collinear flow of air having a different regional airflow velocity.

* regarding claim 8, ensuring that the velocity at which the at least one inkjet fluid droplet is emitted into the region of the collinear flow of air and the regional airflow velocity of the region of the collinear flow of air are substantially matched.

Lundquist et al. do not disclose the following claimed limitations:

* emitting the fluid droplets from a plurality of rows of nozzles

Delametter et al. disclose the following claimed limitations:

* emitting the fluid droplets from a plurality of rows of nozzles (col 1, lines 57-67, figs 2-5) for the purpose of providing a high-density multiple nozzle array with improved resolution without the need for permanently adjusting jet velocities of end nozzles.

It would have been obvious at the time of the invention was made to a person having ordinary skill in the art to utilize emitting the fluid droplets from a plurality of rows of nozzles, taught by Delametter et al. into Lundquist et al. for the purpose of providing a high-density multiple nozzle array with improved resolution without the need for permanently adjusting jet velocities of end nozzles.

Allowable Subject Matter

6. Claims 5-6, 11-12, 13-14 are allowed.

The following is an examiner's statement of reasons for allowance: The primary reason for allowance of claims 5-6 is the inclusion of a method steps for depositing fluid on a surface that includes emitting the fluid droplets form a plurality of groups of nozzles into a plurality of regions of the collinear flow of air, the plurality of regions having regional airflow velocity lower than the maximum airflow velocity of air within the collinear flow of air, every member of the plurality of regions of the collinear flow of air

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having a different regional airflow velocity. It is these steps found in the claim, as it is claimed in the combination of that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for allowance of claims 11-12 is the inclusion of the limitations of an apparatus for depositing fluid droplets on a surface that includes a plurality of regions of regional airflow velocity, the regional airflow velocity being lower than the maximum airflow velocity and different in all the regions of regional airflow velocity and a plurality of groups of inkjet nozzles disposed to emit fluid droplets into the regions of regional airflow velocity, each group of ink jet nozzles within the plurality of groups of inkjet nozzles capable of emitting fluid droplets into a different region of regional airflow velocity at an ink jet fluid droplet velocity. It is these limitations found in the claim, as it is claimed in the combination of that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for allowance of claims 13-14 is the inclusion of the limitations of an apparatus for depositing fluid droplets on a surface that includes a plurality of regions of regional airflow velocity, the regional airflow velocity being lower than the maximum airflow velocity and different in all the regions of regional airflow velocity and a plurality of rows of inkjet nozzles arranged to emit fluid droplets into the plurality of regions of regional airflow velocity, each row of inkjet nozzles within the plurality of rows of inkjet nozzles capable of emitting fluid droplets into a different region of regional airflow velocity at an inkjet fluid droplet velocity. It is these limitations found

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in the claim, as it is claimed in the combination of that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

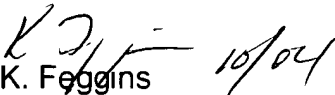
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Communication With The USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Feggins whose telephone number is 571-272-2254. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


K. Feggins
Primary Examiner
October 14, 2004